Great Lakes Fishery Commission
Lake Michigan Committee
2004 Annual Meeting,
Ypsilanti, Michigan
March 22&23, 2005

Harvest of Fishes from Lake Michigan during 2004

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Harvest data were compiled from Lake Michigan fisheries research and management agencies. During early 2004, discrepancies were noted between the creel database and the sport harvest extraction data. The creel database will be the definitive source for all sport harvest data, however, preliminary data will be used to generate the estimate and corrected the following year. Generally, sport harvest is not complete for all agencies by March. Updates will be completed as data is provided to the creel database. Pounds of fish harvested are estimated for 22 species from commercial and sport fishing, weir harvest, assessment surveys and incidental catch by the commercial fishery.

The total biomass of fish harvested during 2004 is estimated at 17.8 million pounds. The peak harvest for the survey period (1985 to present) was 56.6 million pounds during 1985. Harvest averaged 41.4 million pounds from 1985 through 1992, and 20.3 million pounds from 1993 to the present, with a general downward trend. The 2002 harvest estimates show a slight increase, primarily driven by salmonid sport harvest increases (Figure 1). The bulk of the reduction in harvest during the early 1990's is due to closure of the commercial yellow perch and alewife fisheries as well as a reduction in chinook sport harvest.

This is the fifth consecutive year in which sport harvest has exceeded commercial harvest. Nevertheless, overall harvest levels since 1993 have been within sustainable harvest limits of 12.2 to 25.5 million pounds, as outlined in the Fish-Community Objectives for Lake Michigan (Eshenroder et al. 1995).

Benthivore harvest continues to be dominated by lake whitefish, with the commercial fishery being the primary source. The harvest of lake whitefish has been declining since 1996. The benthivore fishery totaled 3.9 million pounds during 2004 and was the lowest for the 20-year period (Figure 2). 2004 is the third consecutive year in which the harvest estimate was at the lower end of the target range of 4 to 6 million pounds set by Eshenroder et al. (1995).

The salmonine harvest of 11.4 million pounds during 2004 was 1.8 million pounds more than the previous year but similar to the level in 2002 (Figure 3). Salmonine forage appears to be available, but there is a reduced condition in alewife which is a concern. Chinook harvest during 2004 reached 9.3 million pounds, which is an increase over all years dating back to 1986. The increase in Chinook biomass harvested is, also, of special concern. Coho salmon harvest levels were estimated at 950,000 pounds. During the 20 years of records, coho salmon harvest has only dropped below a one million pound harvest 4 times. Steelhead trout have continued to decrease since record levels in 1998 (1.3 million pounds) and reached a level (456,000 pounds) comparable to those in 1985 and 1986. Lake trout harvest continues to decline. Harvest was the lowest during the 20-year period, at just over 516,000 pounds, which continues to be an area of concern for rehabilitation efforts. Only 4.6% of the salmonid harvest was made up of lake trout, possibly due in part to the continued availability of the other salmonid species in particular, Chinook salmon. The brown trout fishery also reached an all time low for the 20-year period of 184,000 pounds harvested. This species provides a supplementary nearshore fishery for many agencies.

The harvest of inshore fishes was within the target range of 2.2 to 4.4 million pounds from 1985 through 1995, but has remained well below target levels, since that time (Figure 4). Harvest during 2004 was 737,000 pounds. The increase during 2004 was the result of an increase in the harvest of yellow perch in the sport fishery to a level of 492,000 pounds. Commercial harvest of yellow perch, however, continues to decline. The quota in Green Bay of 20,000 pounds was not reached for the third consecutive year. Yellow perch populations declined precipitously during

the mid-1990's, due to minimal recruitment after 1988. Illinois and Wisconsin have seasonal closures on the sport harvest of yellow perch, while Illinois, Indiana and Wisconsin have reduced their bag limits in recent years. The 1998 year-class continues to be the predominant fish harvested in the yellow perch sport fishery on a lakewide basis. Some recruitment from the 2002 year-class may add to the harvest in the upcoming years (YPTG, personal communication). Walleye are continuing to gain interest within the nearshore fishery. Indiana has reported an increase in the winter nearshore walleye fishery(personal observation). On a lakewide basis however, levels remain below the target of 200,000 to 400,000 pounds for the 20-year period with the exception of the period 1994 through 1996. The 2004 walleye harvest biomass was 162,000 pounds.

Commercial pounds harvested has shown a decreasing trend over the 20-year period, with lake whitefish providing the bulk of the fishery. Lake whitefish harvest in 2004 dropped slightly to 3.8 million pounds. Commercial harvest of other species continued a downward trend during the 1990's, due to a decline in all commercially fished species and the closure of the yellow perch and alewife fisheries. The estimated commercial harvest during 2004 was at a record low of 6.2 million pounds (Figure 1&5). Harvest of all seven major commercially valuable species during 2004 were down relative to the ten-year average. Bloater harvest was 1.4 million pounds, but remains nearly 70% below what it was based on the 20 year average.

The primary commercial harvest of yellow perch occurs in the Green Bay area of Wisconsin. During 2004, only 17,500 pounds of yellow perch were harvested in Wisconsin waters of Lake Michigan. Green Bay perch stocks had remained relatively strong while populations in the remainder of Lake Michigan crashed. Green Bay populations of yellow perch have now followed a similar pattern, as harvest of yellow perch has declined since 1995, however, a strong year-class of yellow perch were sampled in Green Bay during 2003 and into 2004. An emergency regulation, for sport and commercial harvest, was implemented in 2001 and remains in effective. A 20,000 pound harvest quota is in effect for the commercial fishery, while the sport harvest was reduced to a 10 fish daily bag limit. The primary tribal fishery in Michigan, only netted an estimated 478 pounds of yellow perch in the 1836 seceded waters, which is a slight increase over 2003 but still well below that reported for the 20-year period.

References

Eschenroder, R. L., M. E. Holey, T. K. Gorenflo, and R. D. Clark, Jr. 1995. Fish-Community Objectives for Lake Michigan. Great Lakes Fish. Comm. Spec. Pub. 95-3.56 p.

LIST OF FIGURES AND TABLES ASSOCIATED WITH LAKEWIDE HARVEST